



CASE STUDY:

## *Max's Story*

Max was born at term with no concerns during pregnancy or in his neonatal period. His mum was concerned he was slower than his peers and sought advice from physiotherapy.

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Presented at 6 months with developmental delay with no known cause. Mum had concerns regarding possible hypermobility in his upper limbs, as he held his arms backwards when being lifted and at times in sitting. No red flags in pregnancy or birth history. Age appropriate socially, reduced exploration of toys likely due to developmental difficulties.

## Findings:

- Muscle tone and flexibility within normal limits
- Supine: reduced leg movement and limited sustainability of all 4 limbs against gravity
- Side lying: extending and unable to hold due to poor central control
- Rolling: only when facilitated and upper arm lagging back due to poor girdle stability. Minimal trunk and head righting
- Prone: lifting head but static and unable to adjust in this position, poor pelvic and shoulder girdle control, minimal righting
- Sitting: Pelvis posteriorly tilted with c shaped spine
- Problems identified: weakness in trunk influencing pelvic and shoulder stability impacting on ability to sustain movement against gravity and transfer.
- Upper limb posturing for fixing due to reduced core stability

## Intervention:

When supported in Neo+ in supine Max was able to sustain upper limb elevation for longer periods due to supported protraction of his shoulder girdles. Lower limb engagement immediately activated due to supported trunk and starting position of posterior pelvic tilt allowing increased activity and movement against gravity.

In prone raised thorax and support at trunk and pelvis allowed improved sustainability of head lift and release of one arm to reach for toy initiating activity in upper extensor thoracic muscles.

## Treatment plan:

Mat play to facilitate movement/ transfers and activate trunk. (Rolling, play in side lying, prone and supine).

Use of Neo+ in Prone and Supine to promote central stability and strengthen core.



Fig 2: Supported with Neo+



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## Review after 2 weeks

- Supine / unsupported: sustainability in upper limbs against gravity and more movement in lower limbs, beginning to bring up against gravity
- Facilitated rolling: upper limbs coming forward indicating stronger girdle and core
- Supine to prone: active head and trunk righting into extension in this position
- Prone: improved pelvic stability and activity in thoracic extension allowing for more secure prop
- Rolling independently from prone to supine through left side leading



**Intervention:** Readjustment of Neo+ support and additional training for parent

### Treatment plan:

Additional support to increase post tilt pelvis using Neo+ in supine to strengthen core, continued use in supine and prone

Active transfer handling

Use of wobble cushion or Neo+ softened in sitting to provide dynamic base for movement

## Review after 5 weeks

- Actively working all four limbs against gravity and beginning to sustain lower limbs in flexed position
- Age appropriate trunk and head righting
- Secure pelvis and active trunk extension
- Rolling independently prone to supine

### Neo+ discontinued



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